

# S2155

(ANSI:CEM-3) Halogen-Free CEM-3 Copper Clad Laminate

## 特点

- 不含卤素、锑、红磷等有毒成分。
- 燃烧时的发烟量和气味少，不产生剧毒气体和不残留有毒成分。
- 机械加工性优秀，对钻孔、冲模磨损小。
- PCB加工工艺与普通CEM-3相同。
- 符合IPC-4101标准及JPCA标准。

## FEATURES

- Toxic constituents free such as halogen, antimony and red phosphorus.
- Low emitting of smoke and odors in combustion, fewer emitting of poisonous gas and no residue of harmful constituents.
- Significant mechanical workability, lower wearing of bits and punching die.
- Same processability of PCB as conventional CEM-3.
- Conform to IPC-4101 standard & JPCA standard.

## 应用领域

家电、OA设备、电源基板、仪器仪表、游戏机等。

## APPLICATIONS

Appliance, OA equipment, power base board, apparatus and instrument, game machine, etc.

## GENERAL PROPERTIES

Test Item	Treatment Condition	Unit	Property Data	
			SPEC	Typical Value
Tg	DSC		-	128
Flammability	C-48/23/50	-	V-0	V-0
	E-24/125			
Volume Resistivity	C-96/35/90	M -cm	10 <sup>6</sup>	2.8 × 10 <sup>8</sup>
	E-24/125		10 <sup>3</sup>	1.6 × 10 <sup>7</sup>
Surface Resistance	C-96/35/90	M	10 <sup>4</sup>	3.2 × 10 <sup>6</sup>
	E-24/125		10 <sup>3</sup>	2.7 × 10 <sup>6</sup>
Arc Resistance	D-48/50+D-0.5/23	S	60	138
Dielectric Breakdown	D-48/50+D-0.5/23	KV	40	45+kv NB
Dielectric Constant (1MHz)	C-24/23/50	-	5.4	4.8
Dissipation Factor (1MHz)	C-24/23/50	-	0.035	0.010
Thermal Stress	Unetched Etched	260 ,20s	-	No delamination
Peel Strength	1oz Cu. Foil	260 ,10s	N/mm	1.05
				105
Flexural Strength	LW CW	A	MPa	276
				186
Water Absorption	D-24/23	%	0.35	0.10
CTE z-axis	Before Tg	TMA	μ m/m	47
	After Tg		μ m/m	316

Specimen Thickness:1.6mm

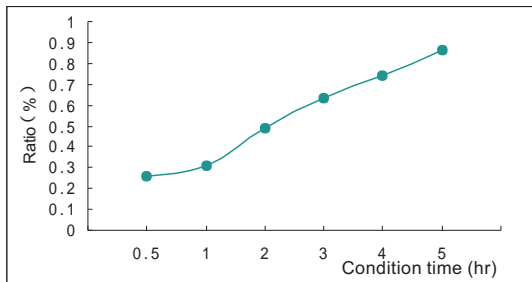
Explanations: C = Humidity conditioning;  
D = Immersion conditioning in distilled water;  
E = Temperature conditioning.

The figures following the letter symbols indicate with the first digit the duration of the preconditioning in hours, with the second digit the preconditioning temperature in and with the third digit the relative humidity.

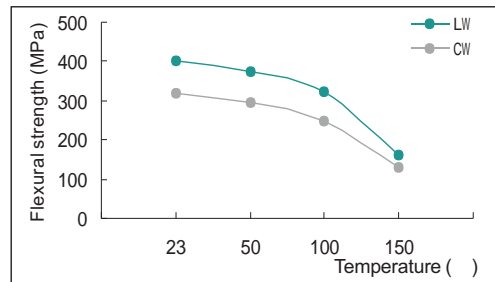
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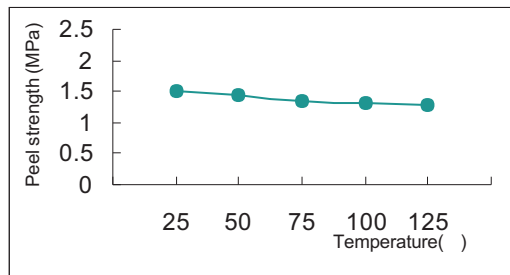
## Water absorption at pressure cooker



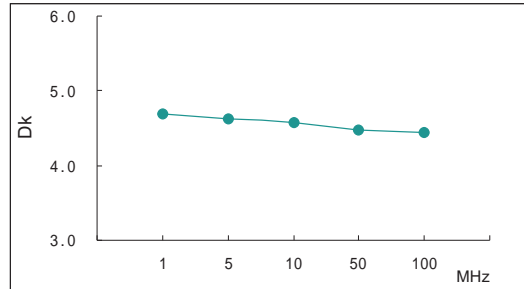
## Flexural strength



## Peel strength



## Dielectric constant



## PURCHASING INFORMATION

Thickness	Copper foil	Standard Size
0.6mm to 3.2mm	18 μm to 105 μm	1,020 × 1,220mm (40 × 48 ) 915 × 1,220mm (36 × 48 ) 1,070 × 1,220mm (42 × 48 )

❖ Other sheet size and thickness could be available upon request.

## HALOGEN CONTENT TEST

❖ JPCA-ES-01-1999 Standard "Test method of halogen-free materials"

Halogen	JPCA Standard	S2155
Cl	0.09%	0.04%
Br	0.09%	0.00%